

VIRGINIA WILDLIFE

DECEMBER 1995

ONE DOLLAR





The Year in Review

Director's Column

William L. Woodfin, Jr

During the past year the Virginia Department of Game and Inland Fisheries (VDGIF) has accomplished a number of things of which we're very proud. We have also enjoyed significant constituent support for which we are very grateful.

Our fish restoration program achieved something that everyone thought was practically impossible when we stocked 7.4 million shad fry, with 5 million in the James River and 2.4 million in the Pamunkey. We had hoped to stock perhaps as many as 5 million, but through good fortune and a sound restoration program, we exceeded that goal by 50 percent.

We initiated a new trout fishing program, and made the successful transition to year round stocking and fishing. We also have a number you can call for stocking information: 804-525-FISH. This information line is updated every business day at 4 p.m., and we encourage you to call that number anytime you need trout stocking information.

The Urban Fishing Program has also progressed, with the opening of a fourth site in Richmond. The goal of this program is to offer fishing opportunities to those who might not otherwise discover the satisfaction of time spent with nature and a fishing pole. It was exciting to see people enjoying the new opportunity at Shield Lake in Richmond's Byrd Park a few weeks ago. Other urban fishing sites are Dorey Park Lake in Henrico County, Northwest River Park Lake in Chesapeake, and Locust Shade Park in Prince William County.



Mel White

Fish passage on the James River has also moved forward. The private/public fund-raising effort has been successful, and construction of another fish ladder, this one on Boshers Dam in Richmond, is scheduled for the coming year.

Wild turkeys have been another management success for us, and the proof is in the number of birds registered at check stations this past spring. Hunters took 11,694 turkeys, and with the management policies approved by our Board this year, there should be a larger number of these fine game birds for all hunters in the future.

Also underway are two other studies, on bear and quail, which will also yield essential management information. Through the Cooperative Alleghany Bear Study (CABS) our biologists are gathering the information necessary for sound management decisions, and some of the Department's quail management activities are presented in this issue of *Virginia Wildlife*. We are using some of the same research technology to study quail that were used in our turkey study; to understand the importance of radio transmitters to researching wildlife resources, be sure to read "Collared Quail are Revealing Their Secrets" in this issue.

Our computerized Fish and Wildlife Information System became available to the public this year and is now being offered as part of our efforts to cooperate with public and private land managers regarding their concerns about wildlife issues.

The Department's law enforcement efforts have also been stepped up, with new recruits, new computer equipment, additional boats, along with the normal successful investigations of wildlife law violators.

VDGIF has also increased boating access and development of a new handicapped-only hunting trail at the Chester F. Phelps Wildlife Management Area that will open in 1996. However, the most significant community involvement VDGIF entered into this year was the statewide program of public input meetings that allowed all Virginians to participate in forming the rules and regulations that govern their hunting and fishing resources. This spring, we held 12 meetings across the Commonwealth, and 1,100 Virginians attended, many of whom shared their views with us on proposed changes in game laws.

But perhaps we're proudest of the support we receive from constituent groups and the number of volunteers that contribute to accomplishing our mission. It's hard for some to believe, but the ratio of VDGIF volunteers to employees is 22:1. That's not a misprint, that's 22:1. Whether they are volunteers who work cooperatively with our Law Enforcement Division teaching hunter education, or Boating Safety, Project Wild or Aquatic Education, or other areas, it's the efforts of these volunteers that help staff make the most of their own time.

VIRGINIA WILDLIFE



Lloyd Hill



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Cover: Photo by Lynda Richardson.

Back cover: Photo by Bill Lea.

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Dedicated to the Conservation of Virginia's Wildlife and Natural Resources



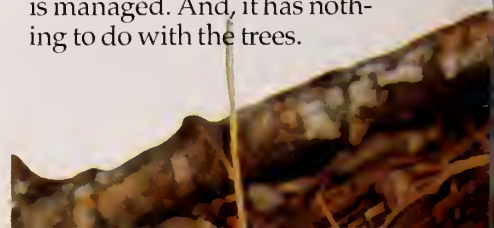
Quail on the Comeback Trail in Louisa County?

by Diane Kane

Windrush Farms was idle for years, but is now becoming a home for quail and a success story for VDGIF and the Nedza family.

Nestled within Louisa County, on a farm with fields once abandoned, stand Christmas trees ranging from 6-inch saplings to 7-foot perfectly formed conifers. Except for the trees, Windrush Farms appears to be a typical Virginia country farm. But, while the prun-

ing, clearing, planting and harvesting of this 94-acre tree farm is taking place, another scene, seldom observed, is occurring. One that has a major impact on the owners and the way their farm is managed. And, it has nothing to do with the trees.





Hidden in the fields are small, skittish bobwhite quail (*Colinus virginianus*), more than two dozen at last count. Young chicks, each a voracious hunter, scurry after insects. Nearby, an adult flapping its wings produces a miniature dustbowl, throwing dirt into the air and sending particles swirling. An occasional bobwhite whistle rivals the shrill noise of crickets or the hum of flying insects.

It is not by accident that quail inhabit Windrush. Its owner, John Nedza, a civil engineer for Virginia Power at the North Anna Power Station, deliberately planned their presence. Since purchasing the farm, John and his family have been establishing the ideal habitat for quail. At the same time, he is managing his property to gain maximum use of his timber and fields that are no longer plowed for crops, but instead brim with wildflowers, weeds, native grasses and Christmas trees.

Today, having more than two dozen quail on a small farm is not typical. For several decades, quail have been noticeably declining. While their decline can be attributed to many factors, the loss of suitable habitat is regarded as the most serious cause.

John, a lover and hunter of quail since a young boy, said he couldn't believe his good fortune when he discovered that he had six quail on his property.

Above left: Landowner John Nedza, biologist Patty Moore and Nedza's son, Todd, examine a sunflower and soybean food patch, photo © Dwight Dyke. Left: Bobwhite photo by Lloyd Hill.

"I had hunted pheasant in New York as a kid before school," John reminisces. "But, when an old man took me quail hunting, flushing up a covey was fantastic, much more dynamic. I had only six quail on this whole farm and I knew I had to do something to increase their populations."

John sought the advice of Patty Moore, the farm wildlife habitat program manager for the Virginia Department of Game and Inland Fishers (VDGIF). A wildlife biologist for small game, Moore provides free technical assistance, including a property check, to help owners reestablish habitat for small game. After visiting Windrush, she drew up a habitat management plan with a schedule of annual steps to meet John's goals.

"Quail require old field habitats for nesting and brooding," Moore said. "These fields must be open since quail spend most of their time on the ground." The key to keeping them open is periodic disturbance.

A proper field must be in early successional stage, with native grasses and annual weeds. In addition to unrestricted movement, quail need escape cover typically found in fencerows. All these habitat components should be within a close enough proximity to prevent quail from having to fly to get from one habitat to another.

"Just observing from a distance is no guarantee that the fields are open," Moore said. "The only way to be absolutely sure is to get out into the field, get down on your belly (6 inches is quail level), and look. If you don't see bare ground, then it is not compatible with or suitable for quail."

Most of John's property had been left idle for years. Its acres were choked with hardwoods and fescue,

a cool season grass that mats, preventing easy ground movement. The soil was poor, requiring fertilizers and lime, and John had to cut, burn, drum chop or disc most of his fields. After a survey had revealed that a majority of his woodlands were hardwood species of good quality grade, he began harvesting and replanting with loblolly pines.



Lynda Richardson

Clockwise, from above: Hen feeding; viewing the results of a prescribed understory burn which benefits quail and loblolly production; sowing for lespedeza; lespedeza and Egyptian wheat.

Opposite page: Todd driving "Big Red."

Following Moore's recommendations, John began managing his property in 3-year cycles. After killing the fescue with herbicide, he divided his property into management units and disked each field. During the second year, he disked only one-third of the units, allowing second-year growth to take hold on the other two strips. In the third year, he rotated another strip for disking, leaving one strip in second year growth and the last strip in a third. By the beginning of the fourth year, he had rotated each unit into one, two and three years of growth, providing a maximum yield of diversity. Different plants attract different insects, so as his herbaceous material becomes diverse, so do the insects. This simple formula provides all the diversity and most of the food his quail need.

John also control burns. While often regarded as troublesome or potentially dangerous, he prefers burning to control the plant growth on his farm. With the help of his family, friends and neighbors, he oversees the burn himself.

"We try to burn with high humid-

ity and impending rain, and we all use backpack sprays," he said. "I never burn more than five acres and I never leave a fire."

John eradicated the fescue and then planted warm season grasses for nesting and brood rearing cover. Warm season grasses is the collective name for a variety of native grasses that, until plowing, over-



© Dwight Dyke

plemental fertilizers or liming; yet, fescue still dominates John's region.

Moore compiles a free list of warm season grass suppliers for anyone interested in developing quail habitat. Although John once planted mostly Korean and Kobe lespedeza, he says he now seeds with a mix.

"That way, if one fails, you have



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grazing and fire protection, had provided excellent forage in Virginia. They are still used extensively in the Great Plains rangelands. Even though warm season grasses are adapted for low rainfall, they produce nearly twice the tonnage of fescues and usually require little sup-

another variety to fall back on," he adds.

Tracy Nedza divides her time between working as an elementary school nurse, running the household and managing the Christmas tree operation, leaving John and 10-year-old Todd to manage the fields,



with 14-year-old Brooke and 12-year-old Ashley's help.

Tracy, a former cardiac surgery nurse at the Medical College of Virginia, shares John's dream. But she admits that in the beginning she was somewhat worried.

"We moved just before Thanksgiving and I did all of my Christmas shopping in Richmond before the move because I didn't know when I'd get back to civilization," she laughs.

For the rest of the family, John has developed a schedule for managing the property. Hanging on the kitchen wall is a color-coded map of his property. Entitled, *The Windrush Farm Mowing Schedule*, each color represents an area of Christmas trees to mow. John has pink. Todd is assigned purple. Ashley has green, and Brooke mows the blue area.

"I guess I couldn't help it," John sheepishly grins. "It's the engineer in me, but it works." He looks over at his son and asks Todd if he has mowed his area recently.

"Yep," Todd answers, looking miffed at being questioned.

Todd is John's right-hand helper. He trims and weeds the Christmas trees, seeds the fields and operates the tractor.

"It's fun, and it's hard work, but if I didn't help my Dad, I'd probably stay in the house and watch TV," he shyly admits. "That's not good 'cause you can get hooked on it and watch it all the time and then there's nothing else to do. I get to go outside and walk in the woods, fish, play with the dogs and spend time with my Dad."

Todd knows more about quail and their habitat than most people twice his age. He can rattle off the names of weeds and grasses at an impressive rate. He masterfully handles the hunting dogs, grabbing firmly onto the collar of a frisky English Setter pup. At Todd's command, the dog instantly sits, even though earlier the familiar bobwhite whistle had echoed nearby.

John works a full day at North Anna, reserving his evenings for his family and the farm. Managing the farm has become so much a part of

his routine that he finds it hard to determine how much time he spends working in his fields.

"Oh, maybe four hours a week," he estimates.

Tracy looks at her husband and shakes her head. "What about when you were cutting down that section last year. You spent hours out there every night for weeks," she challenges.

"Yeah, but that was unusual," he counters. "I'd say, on the average, maybe four to 10 hours a week." Todd grins. Tracy rolls her eyes and turns back to her task of cooking down a large kettle of tomatoes.

While John might underestimate his time, he is certain of his schedule. From January through March, he

From April until June he fertilizes, seeds and disks. Work begins on the Christmas trees, lasting until the new year. He continues to clear and plant his fields.

July through September is Christmas tree mowing season. John begins to scout for quail in August. Recently, he spotted two coveys of at least 20 birds each. He thinks he may have seen a third small covey of about six birds in a northern pasture.

"There is nothing like taking the dogs out to find your coveys and see them lock up and point," John admits. "You know the birds are in there, but even though you are expecting the flush, when it happens, it is as if you were seeing it for the first time."



and Todd top broadcast a mix of Kobe and Korean lespedeza. Broadcasting is simply throwing seeds out. The process is simple, the timing is not.

"It requires the freezing and thawing action of the ground to get those seeds planted," John stresses. "You have to watch and wait until the season is right for that action, otherwise you'll be wasting seeds."

He thins out the hardwood saplings invading the loblolly stands and prepares his plowlines (firelines) for a burn. After burning, he plants VA-70 lespedeza shrubs. If needed, he also limes and fertilizes.

Above: Todd and his dad check out seed production on lespedeza. Opposite page top: Pokeweed is an excellent native quail food. Bottom: Bobwhite photo by Lloyd Hill.

From October to December, John says he reaps the benefits. Windrush becomes a popular field trip site for school children. The farm is open to anyone who wants to view a working farm, tag a Christmas tree or take a hayride. Tracy estimates nearly 1,000 visitors annually ride the hayride.

"Besides pointing out a farm, we take the opportunity to tell our visitors about our quail management," John said. "During the ride, Brooke and Ashley point out quail patches

and explain the habitat. It is one of the most gratifying things we do."

November is the start of the hunting season. John claims there is nothing like being out in the cold and working his dogs.

"This is what all the hard work is about," he grins.

He shares his bounty, permitting a hunt club to come twice a year to hunt deer. He also allows a group to hunt rabbits. He asks only that the hunters not shoot his quail. He will even share his birds with friends, but he is careful that he leaves his coveys strong enough to weather the winter and a new year.

John is in effect, an island. Although his efforts on behalf of quail have attracted the notice of some of

selling firewood and harvesting his woodlands.

"Everything is useable," he added. "Before I drum chopped a section this year, I sold the equivalent of what it cost me last year to run this land just in cedars alone."

During the hottest days of August, John and Todd walk through fields choked with weeds and briars, unmindful of their bare legs in summer shorts. Moore joins them, studying the land and mentally taking inventory on the plant diversity. She and John point out different species. The hot afternoon sun leaves a thin line of sweat on John's brow. He brushes it absentmindedly as Moore points out a smartweed plant.

A 1950 International tractor, faded from red to rust after the years of hot sun and choking dust, fires up. Todd slowly guides the vintage tractor, pulling a disc. Too engrossed to look up at his father, he concentrates on his task. John stands to the side, beaming with pride.

"John is unique in that he does all the physical, manual labor," Moore adds. "Most landowners that I work with hire managers to take care of their property. John does it all, and not with a lot of financial resources."

After Todd finishes, father and son walk up a hill leading to a back pasture. Their tan, sinewy legs are corded with taunt muscles, testimony of the hard, physical work they have accomplished. Todd's shoulders are hunched the same as his father's, their baseball caps identically angled on their heads. John stops and holds a hand airborne. Another bobwhite rings out.

"Maybe others in Virginia could learn from visiting a farm that provides for everyone, including quail," John muses. "It doesn't cost that much, in fact with the right management, you can get a little income while you are doing something for them [quail]." □

Diane Kane is a freelance writer working in the Richmond area; she has recently earned her M.S. in Environmental Studies from Antioch New England Graduate School. She has collaborated with a New England botanist to produce a new field reference guide on ferns and fern allies of the Northeast; publication is scheduled for 1997.

his neighbors, getting them to participate is slow. Only recently has the Nedzas adjacent neighbor agreed to let John begin managing his property for quail.

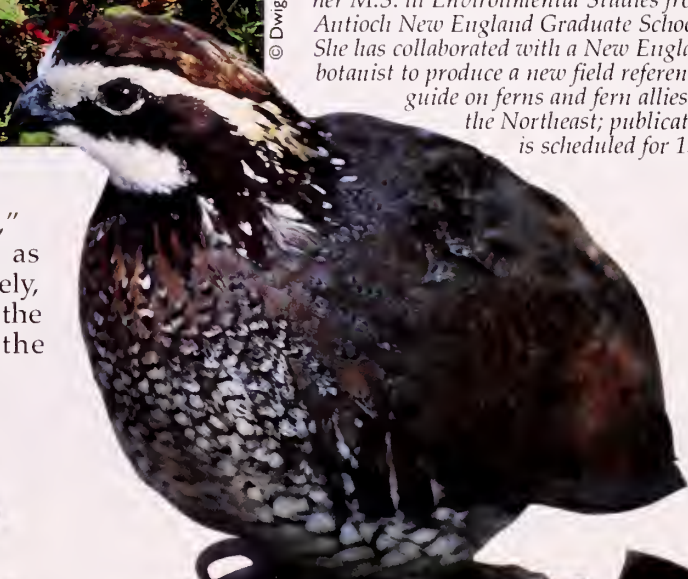
"It's a beginning," John said. He is excited. He knows that more land designated for quail will only add to the coveys already present on his property.

The Nedzas estimate that it takes as little as \$200 a year to maintain good quail habitat on their farm. By carefully managing his property, John can usually offset his costs by

"So that is what this is," he murmurs as he peers closely, memorizing the plant with the name.



© Dwight Dyke





VDGIF and Moore for Quail

Patty Moore advises landowners across the Commonwealth on ways to bring back quail.

by
Diane Kane

How does one go about converting their property to habitat for quail? A good start is contacting Patty Moore. Responsible for the entire state of Virginia, Moore, VDGIF's farm wildlife habitat program manager, offers free technical assistance to property owners interested in creating habitat for small game.

"When a property owner takes the initiative to contact me, then I know they are committed and this is not just a whim," Moore said. "I make an appointment to do a property check with the owner, and once we've completed the walk, I return to my office and, based on my notes and observations, I write a habitat plan."

Moore makes habitat recommendations based on an owner's goals for managing their property. Unlike other programs, such as the Department of Forestry's Forest Stewardship Plan, that offer cost-share incentives and require a commitment from landowners, Moore's recommendations are strictly voluntary. A property owner can choose to im-

plement in whole, part, or none of her suggestions. There is no binding agreement.

Landowners, such as John Nedza, seek to maximize the use of their property. Although Nedza's first priority is quail habitat, to finance the cost and to gain a modest income, he harvests his timber and replants with loblolly pines. To help the Nedzas, Moore suggested they apply to the Forest Stewardship Program. As a result, Nedza has a 5-year action plan to protect and enhance the natural resources of his property. The plan provides detailed steps, including general recommendations and a suggested schedule of management while maintaining sound land management practices. The plan also incorporates Moore's recommendations for quail management.

Whether she is working individually with a landowner or standing in the middle of a cornfield demonstrating a warm season native grass drill at an agricultural exposition, Moore's first priority is education. She travels statewide to Conservation Field Day events, cattlemen expos, county fairs or agriculture bus tours, stressing the importance of field borders and fencerows and the benefits of warm season grasses.

"I reach such a large audience at these events," she confirms. "I'm usually next to a John Deere dealer or farm equipment vendor. A farmer will walk up and say, 'You know, I've noticed less quail,' and then I'll show them warm season grasses and explain how important it is to leave fencerows. They'll leave carrying a handout."

Moore's quick smile and soft-spoken assurance emphasize her genuine interest in people. With property owners like the Nedzas, she becomes a friend, someone who is willing to listen on the phone or make a visit to their farm.

"John calls me and fills me in on what's happening with his quail," she adds. "When a property owner is this committed, I'll do anything I can to help them."

Quail have been declining for several decades, beginning when land management practices changed. Today, farming methods are more intensive, leaving less waste or idle land and fewer weeds, and leaving less habitat suitable for quail. Individual property owners, like Nedza, can make a difference by simply leaving hedgerows and planting warm season grasses.

"Farmers are often resistant to change," she confesses. "But, when I work with a property owner and they go to a friend and tell them I made recommendations that worked, it helps break that resistance."

Most fields in Virginia are typically fescue or orchard grass. Fescue establishes quickly and can withstand abuse. It typically requires fertilizing every 3-5 years and, during drought, produces low forage. A lot of tall fescue contains the toxic fungus ergotamine and ergovaline that can cause sickness and low conception rates in livestock. Fescue is inexpensive and easy to grow, hence its popularity. While warm season grasses are not as inexpensive, they are adapted for low rainfall and produce nearly twice the tonnage, usually requiring little fertilizing or liming. They fit right into a rotational grazing system.

Changes in land use practices are slow. Moore is hoping for more owners like John Nedza, who has interested a neighbor in setting up his own quail management program. Her calendar is becoming backlogged, and though more work for her, it is a good sign. A lot of fescue remains and fields are still being cut down that, with a few simple practices, could become ideal habitat for small game, including rabbit and dove.

"When I drive by an unused field one day and see the perfect habitat for small game, and the next time I drive by it has been mowed in what I call recreational mowing, it kills me. I can't reach everyone, but I'll reach as many as I possibly can." □



Lloyd Hill

Left: Moore explains management plan to John, Tracy, his wife and son, Todd.

Above: Male quail are distinguished by white throat and head markings, while the hen is buff-colored.

Collared Quail Revealing The

A current VDGIF study
examines how we think about
this highly-valued bird.



are r Secrets

by
Diane Kane

As the sun bakes down on hard-packed earth, an adult quail scurries to a less sheltered opening, her brood of chicks racing behind her on tiny legs all but a blur. One chick, barely larger than a bumble bee, spies a grasshopper twice its size. Before the insect can spring away, the chick latches onto its back. Too big to handle, the grasshopper nearly escapes. Suddenly, the many slashing feet and beaks of juvenile siblings join in, tearing the grasshopper to pieces.

Once believed that quail chicks could only eat insects too slow or small to escape, new quail research is revealing an entirely different picture on the behavior of these small game birds.

Mike Fies, VDGIF's small game research biologist, has been conducting a study since March 1994, to determine if Virginia's quail decline is due to poor nest success. The 3-year project will soon wind up its second year, and although inconclusive, based on what Fies has observed, and on the results of research held in other states, he is beginning to question some of the long-held beliefs on quail.

Take for instance the belief that adult birds only prefer seeds. Not true says Fies.

"In the past, biologists studied the food preference of quail in the fall when hunters would send us the crops," he said. "During this period, there are less insects and more seeds available, so it was natural to assume a preference of one over an-

other. We now know from research in other states that the adults take their share of insects as they feed with their chicks."

Or, once believed to be monogamous, new studies have shown that females will occasionally abandon a brood to her mate as she seeks a new mate to start another nest.

"In the past, we've underestimated the importance of the male," he adds. "I radio collared 136 birds this year [1995]: 65 females and 71 males.



Mal White

That's about the same sex ratio as found in the wild. My goal was to have 100 birds nesting and we just barely made it. Out of the 42 nests that were incubated, 26 percent were incubated by males."

Fies has determined that Virginia's quail have an annual mortali-

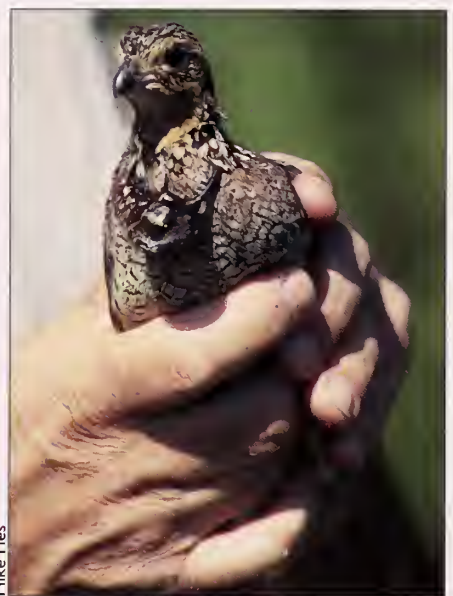
ty rate of 77 percent, based on a sample size of 82,000 wings provided by hunters since 1977.

"We can tell from the wings if they are juvenile or adults," Fies said. "If you're a species that has a high mortality rate and there isn't adequate reproduction, then you are going to have less birds. Nesting is very important."

Long-term quail research is being conducted in several other southeastern and midwestern states. Yet, few past or present studies have focused on nesting successes and failures. That makes VDGIF's research an important component.

"Despite the importance of nesting, we knew very little," Fies stresses. "My project is unique in that I'm determining exact cause, not just that so many birds were lost to predators. What predators?"

To find the answers, Fies monitors dummy nests in the wild with remote cameras wired with infrared sensors or motion detectors. Each dummy nest is an actual quail nest



Mike Fies

Left: Mike Fies carefully attaches a radio collar to a male quail. Above: Making her contribution to the study, a hen proudly shows off her collar.

that is no longer being used. Fies places eggs from captive-bred quail into the nests and waits for the camera to capture what happens.

What will all of this research do for Virginia's quail?

"We know that nesting habitat is crucial, and we know that certain habitats produce enough insects to prevent chicks from starving," Fies emphasizes. "What we don't know is whether quail are having problems successfully hatching off a nest."

Quail are a by-product of humans. According to Fies, even as low as the numbers appear today, they are probably more common than when settlers first arrived. Quail have historically been found where humans or nature have disturbed the habitat. Left to nature, undisturbed areas eventually revert to habitats unsuitable for quail.

Before the first Europeans arrived in Virginia, bobwhite quail were typically found in areas where native Indians burned to clear land. After the appearance of settlers, more land was cleared and quail numbers steadily rose. Modern farming methods that rely on maximizing yields, annual replantings and using pesticides and herbicides, result in less habitat for quail.

For the past three years, an innovative study has been conducted at North Carolina State University in Raleigh. Working with imprinted quail chicks, chicks that regard researchers as their parent, researchers lead the chicks into different environments to study what habitats support them. Results showed that conventional farming methods in soybean, cotton and cornfields could not support the chicks. The insect numbers had been so diminished that the chicks would starve to death. In contrast, no-till methods for corn and soybeans had more weeds and produced an adequate supply of insects for chick survival.

Although modern farming practices eliminated much suitable habitat, one type of land management incidentally is aiding quail and increasing their numbers.



Lloyd Hill



Lloyd Hill

"Cutovers that are replanted with pines create an ideal habitat for quail, at least on the short-term," Fies confirms. "Property owners are converting their hardwood forests that can't support quail to loblolly pine plantations that are good for them for as long as 8-10 years, especially during the first three years."

"Although most pine plantations are rotated on a 40- to 50-year cycle, as one goes out another is going in. I don't know where we'd be today without them." □

Top: VDGIF research shows that the male birds also will participate in incubation. At this stage the young birds are particularly vulnerable, especially if the parent bird is killed.

Above: Adult male with young.

Opposite page top: Milton Gallahan, wildlife biologist assistant, examines switchgrass plant, photo © Dwight Dyke.





Planting for Quail



Top: Photo by Dana Dillon.
Blackberry (*above*), ragweed and *Bidens* spp.
(*right*) are important native quail foods.
Illustrations by Diane Kane.

by Diane Kane

During the summer, a walk through a planned quail habitat reveals brilliant yellows, cotton-candy pinks and hues of deep purple. Not from planned flower gardens, these colors spring from weeds that produce seeds, a primary food source for quail, especially in winter months. Their preferred food is found naturally in the soil's seed bed lying dormant until disturbed. Simply disking is all that is needed to generate their appearance.

A quail's most favored food is a species that brings shivers to many Virginians, or more accurately, a rash of sneezes. Ragweed (*Ambrosia artemisiifolia*), named for the food of gods, is just that to quail. It is an annual herb with tall, erect green stems, up to three feet tall, that forms small brown seeds where the upper leaves attach to the stems. It is one of the first plants to appear on newly disturbed soils and is often found in dense stands.

Beggar's tick (*Bidens* spp.) is another favorite. About 12 species of

Bidens are found in the Southeast and are annual or perennial herbs. They produce a yellow flower and their nutlets have two pointed spines that stick to clothing.

Partridge pea (*Cassia nictitans*), is an annual herb that reaches a height of three feet. It has a very showy yellow flower and blooms from June to September. Its seeds are very hard and remain viable in the soil for many years. Disking and burning are important for this species to germinate, and it will often reappear shortly after a fire.

The deep pink, spiked flower of the smartweed stands erect above the thick covering of this annual herb. Producing a dark brown to black nutlet, this native can withstand flooding, burning and disking. In fact, disking in the spring improves the stand. It is a preferred food for quail in the winter.

The distinctive bright, reddish-purple stems of the pokeweed, coupled with its white to light green flowers, makes this native stand out even in the thickest stand of native grasses and weeds. It grows up to

eight feet and produces a bright red berry during the summer. It possesses a deep taproot and can withstand fire and light disking. It is an important winter food source.

Few can resist the succulent fragrance of the Japanese honeysuckle, including quail. This woody vine is found trailing on fencerows and can climb to a height of nearly 50 feet. Its leaves are evergreen and narrow, and its creamy white to yellow flowers grow in clusters. It blooms from mid-summer to first frost. Though, not a native, it has established itself throughout Virginia and is resistant to fire and light disking.

The blackberry is a member of the Roseaceae, or rose family. This thorn-bearing shrub provides both food and cover for quail. Growing to a height of nearly four feet, it shoots outward long branches armed with sharp thorns and heavy drupes of black fruit. It grows in dense stands along fencerows and field edges. Although the fruit is occasionally eaten by quail, its seeds provide a food staple in the fall and winter months. □



Pokeweed (above), partridge pea, smartweed and Japanese honeysuckle (left) are all plants associated with good quail habitat.



Deer Hunting

When the Going Gets Tough



Soc Clay

by
Gerald Almy

When our minds drift off on deer hunting fantasies, they almost always conjure up beautiful crisp fall days with dry air, temperatures in the 40's or 50's, a rising barometer, no clouds in the sky and gentle winds—just enough to blow

our scent away from the quarry, but not enough to make it skittish and spooky. The great weather makes you alert and keen-sensed and it makes the deer active.

As you sit on a stand a group of does ambles past, followed by several spikes, a forkhorn and a small six-pointer. But your patience pays off. Soon a heavy 10-point is within range and your shot flies true. The air temperature is just right, so you neither break a sweat nor get cold while dressing out the trophy and dragging it back to camp.

Unfortunately, fantasy is all the above scene usually turns out to be—at least the weather part of it. Seldom is the weather so kind and gentle to us during deer season. Instead of light winds, perfect temperatures and blue skies, a typical deer hunt often entails dark ominous clouds, gusty winds, rain, sleet, snow, thunder and lightning, stifling heat, intense cold, or some miserable combination of these conditions.

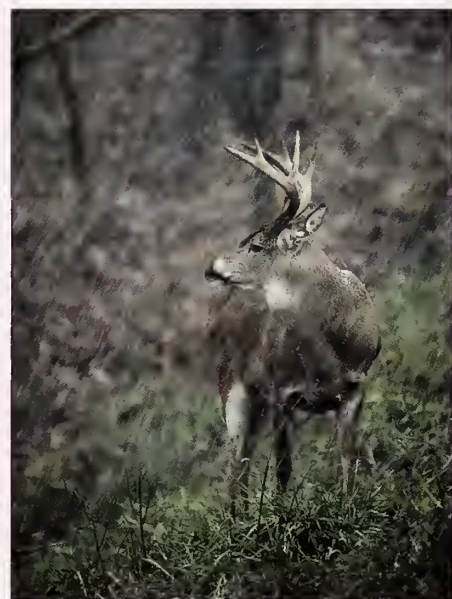
You can take two courses of action when you encounter such bad weather. You can roll over, snap off the alarm clock and sleep in, or you can venture out into it and make the best of it. Doing the latter can often result in some surprisingly successful hunts. After all, the deer can't sleep in and forget the day because of the weather. They're out there—feeding, traveling, breeding as usual in rain or snow, heat or cold, under clouds or blue skies.

Actually, hunting in bad weather even has advantages. For one, often the miserable conditions make other hunters stay home or in camp playing poker until conditions improve, so you can have large tracts of territory virtually to yourself. You won't have to worry about someone stumbling in and spooking a buck just before it approaches your stand. Another plus about seeking deer in inclement weather is that it often makes the hunt a more intense and exciting experience.

When my mind drifts back over 25 years of deer hunting, it's almost always trips in extreme weather conditions that jump out of the

memory bank most vividly. There was the 10-point mule deer in Colorado, my largest muley ever taken on a day when we started out at dawn in 22 below zero temperatures with our breath freezing in icicles on our beards. Then there was the white-tailed buck high on the ridge in Fauquier County taken on a cold, gray November day when rain, then sleet, then snow came in a brutal succession on the wings of a strong northeaster. And the seven-point buck shot in the Shenandoah Valley on a day that was so blustery it didn't seem one could get within a mile of a deer without spooking it. The list goes on.

But regardless of whether bad weather turns you on or you're just willing to tolerate it, the fact is that with deer seasons fairly short and



Bill Lea

Trophy bucks can sometimes be taken only by hunters willing to persevere in extreme conditions.

the free time most of us have to hunt limited, you should either learn to cope with bad weather or count on having precious few days afield. By learning how deer react to various kinds of weather conditions and using that to help form a hunting strategy, you can actually make bad weather work in your favor. Here are the tactics I've learned for dealing with inclement weather over many years of deer hunting, mostly in Virginia, but also in over a dozen other states.

Light Rain—A gentle drizzle is often encountered during deer season. Usually it comes with light winds or none at all. A novice hunter may look at this and say, "I'll be soaked in an hour from walking through the wet brush and vegetation. Better stay in camp today."

Not so a veteran deer hunter. That person realizes that a light drizzle is actually one of the best hunting situations you can encounter. Larry Marchinton, University of Georgia deer researcher and wildlife biology professor says, "deer readily move during light rain, especially if the temperature is falling."

The misting effect seems to increase the animal's sense of security and they'll often venture out into corn, clover and wheat fields in the middle of the day if cloud cover is heavy and a light rain is falling. Bucks that were afraid to walk in forests for fear they created too much noise and were vulnerable, suddenly start to travel because the leaves become soft, damp and quiet. They know they can slink along unobtrusively, and if the rut is on, they'll travel widely looking for does.

The quiet, wet woods also allow you to move stealthily, and this is one of the best times to try still hunting. Walk slowly along old logging roads, deer trails, ridge lines, oak flats and the edges of field and forest, old growth and cutover, stopping every few steps to search as far ahead as you can for your quarry. Use 6-8X binoculars to scan areas that you can't see into with your naked eye. Wear quiet clothes such as wool (my choice), fleece, or special raingear with a quiet outer finish.

Stand hunting is also quite productive in a misting rain. Since you won't be moving much and don't need to worry about noise, you can wear any type of raingear such as Gore-Tex, to be sure you stay dry on the stand. Deer could move any time of day in a drizzle, so bring a lunch and water or juice and be prepared to hunt till dark. Watch carefully by slowly rotating your neck to cover a

270 degree area around you where you expect deer to appear. Standing up slowly every hour or two to stretch your muscles is okay, provided you've checked first to make sure no deer is in view that could catch the movement.

Heavy Rain—This is only for the die-hards. The average hunter won't last more than an hour in a torrential downpour. The one advantage you have is that this type of weather often concentrates the deer for you. Whitetails seldom move a lot in a hard driving rain, preferring to bed down. Thus, if you know or have a good idea where they like to bed,

ing to see a whole deer standing there like they do on the magazine covers.

If your health or age make it such that you shouldn't be out in a hard, driving rain, take heart. You can use this condition to your advantage by simply being poised and ready to get out the minute conditions ease. At this point deer will rise from their beds and head out to feed, chase does or whatever else they had on their minds before the bad weather set in. Often they'll head for openings in woods and fields to shake off the moisture and soak in the sun. Be there waiting in areas with the most potential that you've scouted out be-



Bill Lea

you can still hunt them there. The leaves are quiet and any noise you make will likely be drowned out by the sound of the rain hitting branches and leaves. Because of this, and the intensity of the weather, wearing good quality raingear is advised.

Try high ridges, thick swampy areas, clear-cuts, old overgrown homesites and pine thickets, where the deer find some shelter from the inclement conditions. Work into the wind, moving slowly and scanning ahead with binoculars to try to spot the deer in its bed or standing up shaking off the moisture. Search for a patch of gray hair, piece of antler, or the eye or ear of an animal, rather than expect-

fore the season and chances are good for seeing a buck, even if there's only a brief amount of daylight left when the storm breaks.

Light Snow—If ever there was a type of "bad" weather that was actually good for hunting, this is it. A soft snowfall with little or no wind offers great conditions for still hunting. You can move through the woods in almost total silence, since the snow absorbs the thump of footfalls and crunch of twigs and leaves underfoot. Bucks also know they can move quietly and tend to travel freely in a light snow, and you can pick the animals out easily against the white background.



Since deer move a lot in light snow, this is also a great time to take a stand. Feed areas near heavy cover are particularly good.

You can also try tracking the animals if you have a large area to hunt, know the topography well and use a compass and map to keep track of where you're at. Another alternative is to have one hunter track an animal while another stays a short distance behind and to the side in a downwind position, in hopes of intercepting a buck circling back to check on the trailing hunter.

Heavy Snow—When a really heavy snow hits, deer often bed down in thick cover. By listening to forecasts and watching the skies, you can often predict when a major winter storm is coming and enjoy quality hunting before it arrives. Deer seem to have a built-in barometer and sense the onslaught of storms 12 to 24 hours ahead of time. They feed and travel heavily at these times, seemingly knowing they'll not move much once the snow is upon them. Watch from stands the day or half-day before a winter storm rolls in and you'll see far more deer than on an average good weather day.

As the storm draws close and sets in, switch tactics and move to bedding areas—dense honeysuckle and sapling growth, evergreen thickets, brushy swamp areas, river bottoms and craggy draws that offer some protection from the brunt of the bad weather. Hunt here as the storm arrives, and as long as you can safely be out in it.

Since the deer are so concentrated, a good option for hunting these bedding areas is to put on small drives. You don't need a crowd, just three to six hunters is plenty. Have one hunter in charge of positioning the others and make sure you cover the side escape areas and know where everyone is, and where safe shooting zones are. And always, of course, wear plenty of blaze orange.

If you don't score before or during a storm, try to get out soon after the bad weather breaks and skies begin to clear. The deer will have been mostly holed up for a day or two and will be

eager to feed and move, creating a good situation for waiting on a stand.

Wind—Few weather conditions are more frustrating for the hunter than wind. Wind makes it hard for you to hear deer approaching, makes it hard to see them because branches and bushes are being buffeted about. And worst of all, it makes the animals skittish and wary.

Actually, a light or even moderate wind isn't bad. It helps blow your scent away, and allows you to place your stand or still hunt so that you



Bill Lea



Soc Clay

When a really heavy snow hits, deer often bed down in thick cover. Getting out right after a heavy storm can be daunting, but rewarding.

won't spook the deer with your human smell.

Strong wind is another story. It tends to make deer, particularly older bucks, either bed down or go where they can escape the wind. And that's your key to success in this bad weather situation. Find the protected draws, lee sides of ridges and sheltered bottoms where the deer can escape the harsh breezes and you'll often find them moving freely and vulnerable to a well-placed stand. If you can find fresh scrapes in these protected areas and the rut is on, action is very likely because the deer will be concentrated there both to escape the wind and to look for does.

Extreme Heat—When most people think of bad weather they think of snow, rain, wind and sleet. But actually weather that's too hot can be just as bad or worse for hunting. Deer movement decreases when temperatures soar into the 70's and 80's, and even the 60's are too hot for optimum movement.

There are several steps you can take to maximize success in spite of beach-type weather. One is to hunt the very earliest and latest hours of the day, when the air is somewhat cooler. Be out for the first minutes of legal shooting light and stay until the end of the day as well, using a rifle equipped with a good, light-gathering scope to allow accurate shots during these dim periods.

Another tactic that can pay off in hot weather is to hunt around deep woods springs or creeks, where the air is often a bit cooler. I've also found bucks move better on high ridges in hot weather, where the air is a bit cooler and breezes tend to dissipate the heat. Still hunting along a mountain spine and glassing down into saddles, ledges and heads of hollows just below the ridge top is one of my favorite ways to probe this high mountainous terrain when temperatures soar.

Whatever type of weather you have to cope with, though, whether it's a foot of snow, a driving rain, gale-force winds or stifling heat, don't give up and cancel your hunt waiting for better weather to arrive. Too often, the next day you hope to get out will have some other type of inclement conditions and you'll simply have lost a hunting day. Instead, learn how deer react to the various types of weather, what types of cover they head to, how it affects their movement and how you can plan your strategy to take advantage of it. You may find some of your most absorbing and productive hunts take place when the majority of hunters are back in camp complaining about the weather. □

Gerald Almy has been a full-time outdoor writer for more than 17 years. He is currently a hunting and fishing editor on the staff of Sports Afield.



Walking on Water

by Bob Gooch

*The year-round
angler will enjoy
the fireside more
after spending
time on the ice.*

Back in Biblical times Jesus walked calmly on the surface of a stormy Holy Land lake and then tested Peter's faith by asking that he join him. Both succeeded. Regardless of how strong our own faith might be, it's not something we mortals want to try now. That is, unless you call walking across a frozen lake walking on the water—frozen water.

I felt I was doing just that on a cold January day when I headed across the frozen surface of Lake Burke in Fairfax County to join John Steinbach of Manassas for some ice fishing. I did so with not a little apprehension. The lake was also covered with snow. Several inches sealed the frozen surface from view.

The walking wasn't easy, but not like climbing a hill in the snow. That put another thought in my head. There are few places we landlubbers trod where the earth is perfectly flat. You might spend the rest of your life trying to find a piece of ground level

enough to center the bubble of a carpenter's level.

But the frozen surface of a lake? No problem. There is no flatter surface.

Which brings us to the subject of this story, ice fishing. Steinbach, a native of Michigan who has adopted Virginia as his home, is still an ice fisherman at heart. Unfortunately there are not many days in Virginia when the weather is cold long enough to put a safe covering of ice on the water. A single night of below zero temperatures won't build ice of sufficient thickness for safety. It takes several days of arctic weather. But that was not the case in January 1994. It was not just cold, but prolonged cold!

Steinbach had been monitoring the weather and lake for several days when I called him.

"I went over to the lake yesterday and there's already some good ice, but I would like a few more inches for safety reasons. If the weather pattern holds, we'll be in good shape by Friday."

Steinbach likes a minimum of three inches of hard ice. He emphasized hard. "No slush—and I prefer five or six inches."

The forecast that had most Virginians moaning, delighted John Steinbach. The next several days offered more sub-freezing weather. Nothing above freezing. "It can only get better."

I recall ice fishing being legalized in Virginia a number of years ago. I don't remember it being a particularly shocking announcement. In fact I'm not sure that ice fishing was ever really illegal. Just never addressed in balmy Virginia. The legislation did little more than bring attention to the possibility, and create some rules governing it. There had never been much interest in ice fishing in Virginia.

The usual regulations as to seasons, size limits, and creel limits apply. In fact, most were in effect long before legal sanction was given to the unique kind of fishing. They are the same in frozen or open water. In the case of Burke Lake there are special regulations posted at launching areas. For example there is a minimum size limit on bass and a daily creel limit of 20 on catfish. Otherwise, the normal creel and size limits apply.

Special regulations on ice fishing are limited. I noticed that Steinbach had only one tip-up in place. I asked him why he hadn't set more. The simple and inexpensive little tip-up is the very heart of ice fishing. "Is it legal?" was the reply in the form of a question. I didn't know, but upon checking the regulations I found that the only limitation is that they be attended. In other words they can't be left overnight or while the angler takes a break for lunch. The only limitation seems to be the number of tip-ups an angler can give the proper attention.

The tip-up is a simple device with a small red flag which is triggered to fly up when a fish takes the bait. The line is either rolled in coils and placed in a basket on the ice or wound on a simple spool. In either case there is enough surplus line to allow the angler time to grab it before a fish makes off with all of it. "Flag up" is a heartening cry in ice-

of holes approximately a half foot in diameter. There are gasoline operated augers on the market, but Steinbach hooted at the thought of using one. Very little time was required to drill a fishable hole, one through which a sizeable fish can be hoisted onto the ice.

Ice augers are available from various mail order companies, but



Bob Gooch

fishing country. It signals action and the angler races to the tip-up that has been tipped. He then hauls in his fish hand-over-hand.

But before there is any fishing there have to be small holes in the ice through which to reach the fish below. By the time I arrived, John Steinbach had used his hand operated ice auger to drill through the several inches of ice to create a number

rarely stocked in Virginia tackle shops. I supposed the nose of a chain saw might work, but I haven't tried it. You don't want to use an axe to chop the hole. The blows might crack the ice.

I wasn't a complete stranger to ice fishing. I can recall a cold day on Maryland's far western Deep Creek Lake when we took both chain pickerel and yellow perch. Our host was

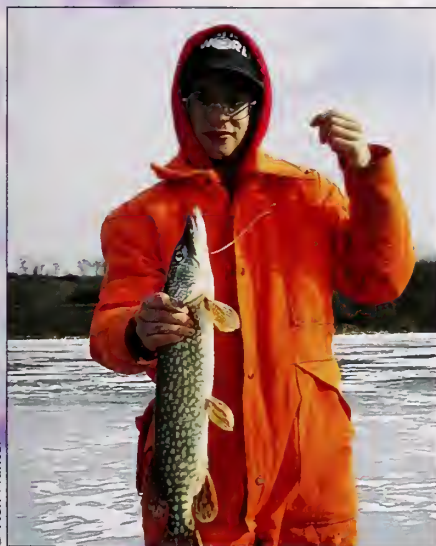
the football coach at the local high school who had a basket full of tip-ups. It was there that I was introduced to them. Later there was a good largemouth bass taken through the ice that sealed a Chesapeake Bay estuary.

The tip-up is one of several fishing methods that will bring fish from beneath the ice. I had with me

spinning reel loaded with 6-pound test. In addition to the improvised ice-fishing rod, reel, and line I had a few hooks, sinkers, and a towel for drying wet hands. "All you need," my host assured me. "I have plenty of live minnows and some night-crawlers." Our primary interest was walleye, an excellent cold weather fish in Virginia.



© Ken Hunter



© Ken Hunter

The "tip-up" (left) is the heart of ice fishing. It is a simple device with a small red flag which is triggered to fly up when a fish takes the bait. "Flag up" signals action and the fisherman hauls in his fish hand-over-hand.

my ice fishing rod, the tip of a broken spinning rod. I had inserted the butt end into the handle, secured it well and mounted an open-face

Conventional spinning tackle can also be used. You simply fish through the hole in the ice as if you were fishing from a pier.

I was dressed warmly—wool long johns, a wool shirt and trousers, and heavy wool socks covering feet stuffed into insulated arctic boots. I had worn those boots to the Arctic in November to hunt musk ox. I also had on heavy gloves, but when actually fishing I resorted to angler's fingerless gloves to retain some dexterity in my fingers. I kept my hands reasonably warm by periodically stuffing them into the deep pockets of my down jacket.

I was comfortable out there in the middle of the lake and fascinated with the experience. Wildlife tracks in the new snow indicated that critters other than ice fishermen traveled the frozen lake.

As Steinbach moved from hole to hole checking on his sets, I noticed that he seldom lifted his feet. He sort of shoved them along through the snow. Good idea. A lot less chance of

having a foot shoot out from beneath you than when you lift your feet for each step.

A young Marine from nearby Quantico was the only other angler out there on the ice. Also from Michigan originally, he too was an experienced ice fisherman. He had wisely brought along a small rubber raft which he pushed ahead of him for safety reasons. A good idea if he should by an outside chance break through at a weak spot.

"I've been through once back home on Lake Erie," noted Steinbach. "It's no fun."

As is true of open-water fishing, locating the fish is a major consideration. You don't just select a sunny spot protected from the wind and set up. John Steinbach fishes Lake Burke often during the open-water season. He knows where to expect the fish to hang out. The young Quantico marine had a small fish finder and a marine battery to operate it. He probably enjoyed an advantage, though Steinbach had obviously selected a productive patch of ice. We caught bluegills and a lone catfish. The fish were well colored despite being protected from the sun.

When seeking water for ice fishing, it's a good idea to test the small waters first—small lakes such as 218-acre Burke or farm ponds. These protected, still waters tend to freeze first and generally develop the best and safest ice.

Several days after our ice fishing trip, John Steinbach called me to say he had been back on the same Burke Lake and caught a dozen nice shell-crackers, one a real prize.

My own day on the ice was rewarding, a chance to spend time outdoors in a unique environment. I didn't enjoy fabulous fishing, but I can't think of a better way to spend some time outdoors when the weather tempts you to settle down by a warm fireside. You'll enjoy that fireside more if you spend some time on the ice first. □

Bob Gooch is an outdoor columnist and has authored many books on hunting and fishing. He lives in Troy, near Charlottesville.



Journal



Mel White

A violent rain storm and near flood conditions didn't deter the Nottoway-Meherrin Chapter of the Wild Turkey Federation from having a successful fund-raising dinner at the Arrowhead Hunt Club near Chase City. The event, held on October 5th, packed nearly 300 people into the hunt club's main meeting room.

Featured speaker at this year's fund-raiser was Virginia Secretary of Natural Resources, the Honorable Becky Norton Dunlop. Mrs. Dunlop extolled the virtues of the state's wildlife management programs and congratulated the Turkey Federation chapter on their efforts to conserve and protect the wildlife resources of Virginia.

At the meeting the chapter made good a pledge to provide funds to the Department of Game and Inland Fisheries. Chapter President Gerald Duncan presented a check for \$10,000 to Bill Woodfin, Director of the Department. This money, along with funds contributed by the Virginia Deer Hunters Association and others, will be used to purchase a computer-controlled interactive turkey hunting safety video. This teaching tool will be used statewide in the Department's hunter safety program.



Warren F. Wade, president of the Louisa, Orange, Caroline and Spotsylvania Chapter of Waterfowl U. S. A. presented this first artist's proof of Gerl Haney's wood

duck painting to the Department. Prints of this painting will be used to generate funds for Waterfowl U. S. A.'s duck and goose projects in Virginia.



© Dwight Dyke

Catharine W. Tucker, shown here at the recent Eastern Shore Birding Festival, was named Conservationist of the Year by the Virginia Wildlife Federation. Tucker is a member of the Board of the Department of Game and Inland Fisheries and immediate past president of the Virginia Council of Trout Unlimited. David Whitehurst, assistant director for field operations, (*center*) and Game Warden Steve Garvis, (*left*) were also involved with the festival.



Mel White

Col. Jeff Ulerz (*left*) congratulates Officer Phil Townley (*right*) on being named Warden of the Year.

With a reputation for being a conscientious officer, who is able to develop a solid case by using his experience and incentive, Phil Townley certainly deserves the title of Game Warden of the Year. Officer Townley is the Department's marine theft investigator and in that role instructs wardens and law enforcement officers across Virginia in the intricacies of dealing with stolen boats and related marine equipment.

Townley is also a certified criminal justice firearms instructor and armorer for the Department. As part of his duties he instructs wardens during mandatory in-service firearms training.

Officer Townley is rated as being very efficient when it comes to protecting the state's natural resources, according to his supervisor Captain Roger Rowe.



3rd Annual Eastern Shore Birding Festival

If you haven't seen warblers, turns, oyster catchers, herons, a wide variety of hawks, all on the same outing, you haven't visited the Eastern Shore's Birding Festival. The Third Annual Eastern Shore Birding Festival was held this past October 7 and 8, and it's clear it's developing into one of Virginia's premier birding events.

Neo-tropical songbirds and raptors funnel down the migration corridor of the Eastern Shore peninsula to rest and eat before flying across the Chesapeake Bay. The songbirds are mostly insect eaters that follow their food supply south into warmer climates, and the raptors, some of which eat songbirds, as well as rodents, were doing the same.

Along with providing the opportunity to watch several fascinating species at close range, the festival is a development tool for the Eastern Shore. The festival's main sponsor is the Eastern Shore Chamber of Commerce, and, along with several others, the Virginia Department of Game and Inland Fisheries is one of the co-sponsors. Festival events covered the Eastern Shore, from Chincoteague to Kiptopeke.

The Eastern Shore plays an important role in bird migration, and the birding festival exemplifies responsible nature tourism. □



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1&3: Katherine T. McKeon and Deputy Secretary of Natural Resources, Tom Hopkins with Coopers hawks at the Wise Point Hawk Banding Station; 2: one of the many tours offered at the festival; 4: a moment at the Kiptopeke Bird Banding Station; 5: Sgt. Mike Caison, (right) and VDGIF Director, William L. Woodfin, Jr. (left) introduce an osprey to interested youngsters. Photos © Dwight Dyke.

Recipes

By Joan Cone

Wild Goose For Christmas Dinner

Virginia waterfowl hunters will be bagging two species of geese, resident Canadas in the early season, and snows during the late season. These will range in size, and some will be more tender than others depending on age.

Many hunters prefer cooking just the breasts, and this is fine as long as you do not waste the legs and thighs. While these parts can be tough on older geese, they become tender enough to eat after cooking them in a crockpot or pressure cooker. The meat can be removed from the bones and used in casseroles or other dishes. Your goose carcass makes excellent soup.

Below is a goose breast recipe which uses aluminum foil to prevent the meat from drying out.

MENU

Marmalade Goose Breast

Perfect Microwave Rice

Stir-Fried Brussels Sprouts & Tangerines

Cranberry Bourbon Sorbet

Christmas Fruit Balls

*Marmalade Goose Breast

- 2 cups milk
- 1/2 teaspoon white vinegar
- 1 boneless skinless whole Canada goose breast (about 1 pound)
- 1/2 cup dry white wine
- 1/2 cup apple cider or apple juice
- 1/3 cup frozen orange juice concentrate, defrosted
- 1 1/2 teaspoons grated orange peel
- 2 tablespoons orange marmalade

In medium mixing bowl, combine milk and vinegar. Add goose breast, turning to coat. Cover with plastic wrap. Refrigerate 8 hours or overnight, turning once or twice. Drain and discard milk mixture. In second mixing bowl, combine wine, cider, concentrate and peel. Add goose breast, turning to coat. Cover with plastic wrap. Chill 4 to 6 hours, turning once or twice. Heat oven to 425°. Line 8-inch square baking dish

with heavy-duty foil, allowing foil to extend 10 inches on each side. Drain wine mixture, reserving 1 cup. Place goose in prepared dish. Pour reserved wine mixture over goose. Fold opposite sides of foil together in locked folds. Fold and crimp ends. Bake for 30 to 35 minutes, or until meat is desired doneness. Fold back foil. Brush marmalade over goose breast. Bake, with foil open for 5 to 10 minutes, or until meat is browned. Carve breast across grain into thin slices. Serve with hot cooked rice, if desired. Makes 4 servings.

Perfect Microwave Rice

- 1 cup uncooked white rice
- 2 cups liquid
- 1 teaspoon salt
- 1 tablespoon butter

Combine all ingredients in a deep 2-quart covered container. Microwave on High for 5 minutes. Reduce power to Medium (50 percent) and microwave for 15 minutes. Fluff with fork. Makes 4 servings.

Stir-Fried Brussels Sprouts & Tangerines

- 1 pound Brussels sprouts, trimmed, cut in half lengthwise
- Boiling water
- 1 small onion, thickly sliced
- 1 tablespoon margarine or butter
- 1 teaspoon caraway seed
- 1 chicken bouillon cube
- 1/2 pound mushrooms, thickly sliced
- Grated peel of 1 tangerine
- 2 medium or 3 small tangerines, peeled, segmented, seeded

Parboil Brussels sprouts in boiling water for 5 minutes; drain well. In large, nonstick skillet stir-fry Brussels sprouts and onion in margarine with caraway seed and bouillon until just tender, 3 to 5 minutes. Add mushrooms and stir-fry for a few minutes longer. Stir in tangerine peel and segments; heat. Makes 4 to 6 servings.

Note: a 10-ounce package of frozen Brussels sprouts, thawed, may be substituted for fresh. Cut sprouts in half lengthwise but do not parboil in boiling water.

**Cranberry Bourbon Sorbet

This marvelous, but easy recipe is by Marcel Desaulniers, executive chef and co-owner of The Trellis restaurant in Williamsburg.

- 3 cups water
- 2 cups sugar
- 3 tablespoons bourbon
- 1 pound whole cranberries

To prepare the sorbet: In a saucepan, bring the water, the sugar and the bourbon to a boil. Allow the mixture to simmer for 5 minutes. Add the cranberries and simmer until the berries pop open. Puree the mixture and press through a fine sieve. Cool the mixture thoroughly and then freeze. Yields 2 quarts.

Christmas Fruit Balls

- 1 1/2 sticks (3/4 cup) butter
- 1 cup powdered sugar
- 1 egg
- 1 3/4 cups flour
- 1/2 teaspoon ground cardamom
- 1/4 teaspoon salt
- 1 cup fruit cake mix candied fruit
- 1/2 cup chopped nuts
- 1/2 cup chopped dates

Cream butter. Add powdered sugar and continue creaming. Add egg and beat well. Stir in flour, cardamom and salt. Fold in fruit, nuts and dates.

Chill dough about 30 minutes for easier handling. Shape and roll dough into 3/4-inch balls. Place on ungreased cookie sheet. Bake in a 350° oven for 12 to 15 minutes. Roll in granulated sugar, if desired. Yields 6 dozen cookies. □

* Recipe reprinted with permission of Cy De Cosse Inc., publisher of The Hunting & Fishing Library's *America's Favorite Wild Game Recipes*, 1994.

** Recipe from *The Great Chefs of Virginia Cookbook*, published by the Virginia Chefs' Association, 1987.

Photo TipS

By Lynda Richardson

A Photographer's Holiday Wish List

Each year as the holiday season rolls around, no matter how hard I try, I still have to make the crazed dash to the shopping malls. I just can't understand why this happens as year after year starting January 1, I'm constantly on the look out for gifts. As the first "after Christmas" sale catalogs hit the mail box, I rub my hands together with anticipation, feeling quite smug in my foresight to plan ahead. As the mailbox fills to overflowing, I grab my tattered "gifts to buy" list of friends and relatives and with hawk eye diligence scour the "One Day Only," "Final Clearance," "Half Off," and "Rock Bottom" specials. With those same good intentions, I mark the catalogs, stacking them neatly in a pile by the television, happily checking down my list until everyone is accounted for. Then, just as faithfully, I don't buy a thing.

For all you fellow procrastinators out there, here's a bunch of gift ideas for that last minute dash.

In the past, I've mentioned archival slide or negative pages (purchased in packages of 25 or 100 priced from \$10 to \$30), loupes for viewing slides (anywhere from \$15 to \$125), light tables (small starting at \$50 to real large \$800), film (black & white, color print or color slide \$3-\$10 per roll), picture frames (\$1-\$100 depending on size and quality), photo albums (depending on size and amount of pages, \$10-\$50), and gift certificates from local camera shops, processing labs or photographic catalogs.

But photographers also love to look at other photographer's work. Personally, I do this for inspiration...and to check out the competition. A great source is subscriptions to various wildlife and photography oriented magazines. Since there are so many out there, I would recom-

mend visiting your local bookstore or newsstand to see what's available. Some of my favorites are the National Wildlife Federation's *National Wildlife* (bimonthly/6 issues for \$16) and *International Wildlife* (bimonthly/6 issues for \$16 or "Best Buy" for both at \$22) as well as *Ranger Rick* and *Your Big Backyard*, children's wildlife publications (\$15 and \$14 for 12 issues respectively.) Also, keep your eyes open for the National Wildlife Federation's newest magazine, *Nature's Best*, which first appeared this past summer (\$4.95.) The second issue should be out sometime this spring. For gift subscriptions and a product catalog, please call 1-800-432-6564. Another big favorite is published by the National Geographic Society. The famous yellow bound *National Geographic* is full of great photography from the world over (one year membership \$25). They also produce a children's publication called *World* (one year \$14.95). For gift subscriptions and a product catalog, call 1-800-NGS-LINE. For a magazine a little closer to home don't forget the award-winning *Virginia Wildlife* magazine. You wouldn't want to miss "Photo Tips," would you? Be sure to tear out and fill in the subscription card in this issue as soon as possible.

Another way to view inspiring wildlife photography is through books. Renowned west coast photographer Art Wolfe has several new books out this season. *Wildcats of the World*, written by Barbara Sleeper (\$50), *In the Presence of Wolves*, (\$60) *Photography Outdoors*, paperback written by Mark Gardner (\$12.95) and a children's book, *O is for Orca*. (\$14) These beautifully photographed wildlife and photography books can be ordered by calling for a catalog from the Art Wolfe Collec-

tion in Seattle, WA at (206) 706-9521 or by fax (206) 938-3139. Special Offer: All books purchased from the AWC catalog are signed by Art himself!

If you would rather not hide your favorite wildlife photographs on the bookshelf, many photographers offer limited edition prints and posters for sale. Tom Mangelsen is famous for his gorgeous, limited edition prints sold by his private galleries throughout the west. His company, "Images of Nature," produces a color catalog of incredible images which can be purchased as photographic prints only, matted or matted and framed. Prices range from \$60 for an 8 X 10 photograph only, up to a mounted and framed w/non-glare glass 30 X 50 photograph for \$1,145. He also has a line of books, posters, notecards and a calendar. For a free catalog call: 1-800-228-9686.

Internationally known wildlife photographer Frans Lanting has recently turned to selling limited edition prints as well. He has picked out his top 20 images and had them reproduced as pigment transfer prints. Each image is a limited edition of 300 in the size of 16 X 20 double matted. These images, taken while on shoots for National Geographic, can be purchased for \$800 each. For more information, talk to Julia Belanger at Frans' office in California at (408) 429-1331.

I think that about does it for this year's holiday gift ideas. Now it's up to you! Don't hesitate! Grab your telephone, make some calls and get those catalogs now. Then as you carefully go through them, checking off your holiday buying list, for heaven's sake buy something! Happy Holidays! □

by Nancy Hugo

Mistletoe

Growing tantalizingly out of reach and staying green when all around it looks dead, mistletoe has been associated with myth, magic, and romance for centuries, so it's something of a surprise to learn the meaning of the plant's common name: dung branch. It's not a romantic allusion, but it's an accurate one, because birds, especially cedar waxwings and bluebirds, relish white mistletoe berries, and they spread the plant's seeds through their droppings. Sticky mistletoe seeds also adhere to birds' beaks, and they transfer the seeds to new branches when they sharpen their beaks there.

Growing high in deciduous trees like oaks, gums, tupelos, elms, and maples, American mistletoe (*Phoradendron flavescens*) is a semi-parasitic plant with leathery, evergreen foliage and tightly clustered, shiny, white berries. So monochromatic and smooth are the leaves and stems of this plant that sometimes artificial mistletoe looks more "natural" than the real stuff. Don't be fooled, though. Three quarters of the magic in mistletoe comes from the method of getting it, so be sure your mistletoe has been properly gathered, not manufactured.

The primary rule of mistletoe gathering is that you can't let it touch the ground. Whether you shoot it out of the top of a tree or send a climber up after it, you need to make sure it doesn't fall to the ground, because that's bad luck. To be really true to tradition, you'd have to gather your mistletoe the way the ancient Druids did: clothed in a white robe, you'd have to climb to the top of a sacred oak, cut your mistletoe with a golden sickle, and have someone (an honored person) on the ground to catch it in a white cloth before it touched the earth.

It's not surprising mistletoe would be used in ancient winter solstice celebrations and in Christmas decorations, because it shows up best and looks most full of life during the season when everything around it looks lifeless and bare. The Celts, who believed the oak tree gods lived in mistletoe after the oak leaves died, used mistletoe in winter solstice celebrations, as did later Europeans. The plant was a symbol of peace and good luck; enemies meeting under it disarmed for the day, homes displaying it over their doorways warding off evil, people wearing it expected good fortune. There's also a wonderful Scandinavian myth associated with mistletoe that goes something like this: Balder, the god of light and spring, dreamt of his own death and told his mother, Frigga, about it. Frigga bade all the plants and animals not to harm her son, but she overlooked mistletoe. The god of evil made an arrow with a mistletoe tip and gave it to the god of darkness and winter, who slew Balder with it. Frigga cried tears that turned into mistletoe berries. Miraculously, her son came back to life, and in her happiness, Frigga kissed everyone who passed beneath the mistletoe. I imagine our tradition of requiring a kiss of anyone caught standing under mistletoe derives somehow from this story.

Although mistletoe's genus name suggests, correctly, that mistletoe steals something from the tree on which it grows (the word *Phoradendron* comes from two Greek words meaning tree thief), the plant isn't entirely parasitic. Mistletoe absorbs water and minerals from trees on which it grows, but it also manufactures some of its own food through photosynthesis. Although it reportedly will slow the growth of the branches it's growing on, it

doesn't permanently damage its tree host. In the southeast, American mistletoe grows in the tops of deciduous trees, but there's a dwarf mistletoe (*Arceuthobium*) that grows on conifers (cone-bearing trees) in the western part of the U.S. In France and England, mistletoe is common in old apple orchards.

Although relished by birds, mistletoe's berries are poisonous to people. One report of the National Clearinghouse for Poison Control Centers described a fatality that occurred 10 hours following ingestion of a tea brewed with mistletoe berries. Cause of death: acute gastroenteritis and cardiovascular collapse. Mistletoe leaves, on the other hand, reportedly have medicinal properties. Naturalist Mark Battista reports that native Americans used the plant's leaves to treat toothaches and that the plant has been used to treat high blood pressure even in modern times. The most interesting (albeit misguided) medicinal use of the plant I've heard, however, has to do with its use to treat epileptics. Evidently, the ancients assumed that since the plant grew high in trees and never touched the ground, it could be ingested by epileptics to keep them from falling down.

A plant with a long, interesting history, mistletoe continues to bring green life to winter woodlands and romance, if not magic, into our homes. So count it a treasure if someone brings you mistletoe for the holidays. Although I hear it's fairly easy to shoot out of trees (a .22 being the instrument of choice, because a "shotgun tears it all to pieces"), it's a whole lot harder to procure than holly and whole lot more likely to promote random acts of kissing. No one needs to know they're kissing under a dung branch. □



by Col. William Antozzi, Boating Safety Officer

Terrifying Cold Water Tales

When the water turns frigid many boaters give up and await spring, but others don't stop because of their fishing and hunting interests.

There are a few stories related to winter boating which I would like to relate.

It was late winter when Jake and Rudy launched their canoe into a nearby lake and prepared to do some fishing. They brought lunch, a cooler and a few six-packs of beer. The water was a bone-chilling 41 degrees, but Jake said that even a lousy day of fishing was better than a good day at the office. They worked the shallows in the morning and halfway through the afternoon were about ready to quit, but Jake wanted to try a favorite spot near flooded timberland where he frequently caught bass. He was already working his second six-pack.

They paddled to the desired place and all went well until Jake's lure became hooked on a dead tree branch. Jake pulled, but to no avail. Finally, he made a fatal mistake. He stood in the canoe and gave a powerful jerk on the line which suddenly released the snag causing him to fall overboard. As a result of the fall he went completely under water. The cold water caused an involuntary gasp and Jake inhaled while submerged. He was not wearing a personal flotation device (PFD). Rudy, in attempt to rescue Jake, also fell in but was able to hang onto the canoe and get to shore. Jake perished.

I have told a story of a typical accident involving non-traditional boaters who use small unstable boats in pursuit of their favorite sport. Over half of such accidents happen in broad daylight on calm water and most of the time the boat

isn't even underway. The common denominator in those accidents is alcohol and about 50 percent of boating fatalities are alcohol-related. Alcohol adversely affects orientation, balance, judgement, and the ability to react quickly. It should be remembered that a can of beer has the same alcoholic content as a glass of wine



Photo by Soc Clay

or a shot of liquor. Overindulgence can needlessly turn a pleasant day on the water into tragedy.

Another story is about duck hunting. Roy went duck hunting on a cold January day in a protected marsh on the edge of a river. He was accompanied by his dog Skeeter, a young black Labrador retriever. Roy launched his small johnboat and set out his decoys. He waited, hidden in marsh-grass along the bank and was getting cold and stiff when a cold-front came through. Roy soon saw a flock and knew that the birds would probably be coming

into that part of the river, looking for a place to spend the night. In short order, the ducks were overhead, as Roy expected, and with Skeeter's help, he was able to bag several. Finally, he hit one which fell out in the main part of the river where the current was strong. Skeeter went after the floating bird and Roy immediately sensed a problem. Although the dog was the closest thing to a duck retrieving machine, Roy realized that he was cold, tired and confused, which was too much, even for a young Labrador. Skeeter had been trained to respond to hand-signals and voice commands so Roy tried to get him to turn back, but the tired dog was determined to retrieve the duck.

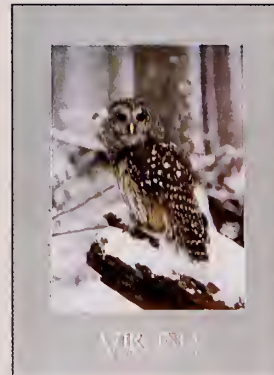
Roy realized that he must act quickly to save Skeeter, so he launched his skiff and rowed out to the exhausted dog. When he reached Skeeter he tried to get him into the skiff, but the 60 pound Labrador proved to be too much to handle and the worst happened; Roy fell in the frigid 40 degree water with the dog. He was wearing a flotation coat so Roy floated like a cork. Once he had Skeeter he headed toward shore, it did not take long to make it to safety.

Cold water is one of the most hostile environments known to man. More sportsmen who use boats die from drowning or cold water exposure than from any other cause. Water removes body heat 25 times faster than air, so in the event of cold water immersion it is vital to get as much of the body out of the water as possible. The head is particularly vulnerable because 30 percent of body heat loss is through the head.

Take a swim course and wear a PFD. □

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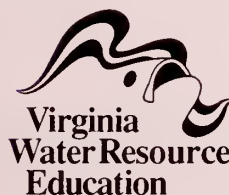
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Don't delay— Christmas isn't far away!

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